

REMARKS/ARGUMENTS

Claims 1-37 were pending at the time of the mailing of the outstanding Office Action. By this amendment, claims 1, 7, 25-29 have been amended. No claims have been cancelled or added. The amendment to claim 1 adds a missing period at the end of the claim.

In the Office Action of March 14, 2007, the Examiner rejected the pending claims under 35 U.S.C. § 103(a) as follows. Claims 1–14 and 21-35 stand rejected as being obvious over U.S. Publication No. 2002/0004060 to Heublein et al. (hereinafter “Heublein”) in view of US Pat. No. 2,219,056 to Sauerwald et al. (hereinafter “Sauerwald”). Claims 15–17 and 19–20 stand rejected as being obvious over Heublein in view of Sauerwald and in further view of U.S. Patent No. 6,979,347 to Wu (hereinafter “Wu”). Claims 18 and 36-37 stand rejected as being obvious over Heublein in view of Sauerwald in view of Wu and further in view of U.S. Patent No. 6,676,697 to Richter (hereinafter “Richter”).

To establish a prima facie case of obviousness, three requirements must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. There must also be a reasonable expectation of success and the prior art reference or references must teach or suggest all of the claim limitations. (MPEP § 2143.) The Applicants maintain that these requirements have not all been satisfied.

One of skill in the art would not find a teaching or suggestion in either Hueblein or Sauerwald of the use of yttrium in any type of medical usage including stents, regardless of reduced grain size and increased mechanical strength, as cited by the Examiner as being taught by Sauerwald. While Sauerwald indicates that the addition of yttrium provides improved “mechanical strength properties,” additional properties are also required for a material to be suitable for use in an endoprosthesis. First, such a material must be biocompatible generally. For example, regardless of any other properties

provided by lead, mercury or other “heavy metals,” these elements would obviously be incompatible with usage in an endoprosthesis. The Examiner provides no teaching or suggestion, either in the cited prior art or in the knowledge generally available to one of ordinary skill in the art, that yttrium is compatible with use in an endoprosthesis. Additionally, while Sauerwald indicates that the addition of yttrium to a magnesium alloy provides improved tensile strength, there is no indication that such an alloy would have other properties also required in an endoprosthesis such as torsional strength, minimization of re-stenosis, or minimization of inflammation.

The non-obviousness of the use of yttrium in a magnesium alloy in an endoprosthesis is also demonstrated by the disclosure of U.S. Pat. No. 3,687,135 to Stroganov et al. and that of corresponding German Pat. No. 1953241 (previously provided in the IDS of 6 April 2004). Stroganov provides a magnesium-based alloy containing rare earth elements for use in bone surgery. However, despite the lapse of almost 32 years between the issuance of Sauerwald and the issuance of Stroganov in the US, the addition of yttrium to a magnesium alloy to improve tensile strength or otherwise in a medical application, was still not taught or suggested by Stroganov. Additionally, a further 30 years elapsed between the issuance of Stroganov in the US and the publication of the cited Heublein application. Despite the lapse of a total of 62 years between Sauerwald and Heublein, no teaching or suggestion is provided that an alloy containing yttrium, as provided by Sauerwald, was suitable for use in an endoprosthesis as provided by Heublein. Therefore, one of ordinary skill in the art would not have found any teaching or suggestion, either in the cited prior art or in the knowledge generally available to one of ordinary skill in the art, to add yttrium to a magnesium alloy for use in an endoprosthesis.

The Examiner also maintains that Heublein provides the invention as recited in claim 1 with the exception of the inclusion of yttrium. However, Heublein does not provide a composition as recited in claim 1, even with the exception of yttrium. Heublein’s magnesium-containing compositions are distinguishable from that of the claimed invention. These include alloys containing optional amounts of lithium, iron and “less than 5% other metals or rare earths” (Heublein, paragraph 0016), various amounts of

aluminum and lithium with rare earths (Heublien, paragraphs 0017-0019), aluminum, manganese and zinc (Heublein, paragraph 0020) and aluminum, manganese and lithium (Heublein, paragraph 0021). No rationale is provided to choose one composition over another for use in an implant. Claim 1 recites a composition including a minimum of 5.2% of the combination of yttrium (minimum of 3.7%) and rare earths (minimum of 1.5%). Even considering the composition of Heublein's paragraph 0016 without lithium and iron, the composition of claim 1 is still distinguishable from Heublein's because the recited concentration of rare earths and other metals is outside of that disclosed by Heublein. Therefore, even with the addition of Sauerwald's disclosure to that of Heublein, the references do not teach or suggest all the limitations of claim 1.

For these reasons, the Applicants maintain that claim 1 patentably distinguishes over Heublein and Sauerwald, either alone or in combination. Likewise, claims 2-14 and 21-35, which depend from and incorporate all the limitations of claim 1, also patentably distinguish over Heublein and/or Sauerwald.

Claims 2-14 and 21-35 also provide additional distinctions over Heublein and Sauerwald. For example, the Examiner maintains that claims 7, 12, and 25-29 which recite that the carrier structure is extruded or that the carrier structure is produced by cutting a tube from one piece, are product by process limitations. Claims 7 and 25-29 have been amended to recite the properties of the carrier structure that result from extrusion which are not observed from a cast carrier structure, as provided in paragraph 0012. Neither of these properties are taught or suggested by the cited prior art.

Claims 15-17 and 19-20 stand rejected as being obvious over Heublein in view of Sauerwald and in further view of Wu. As discussed above, neither Heublein nor Sauerwald, provide a teaching or suggestion of an endoprosthesis having the composition recited in the claims. Wu also does not provide a teaching or suggestion to add yttrium to a magnesium alloy for use in an endoprosthesis. Therefore, claims 15-17 and 19-20 also patentably distinguish over Heublein in view of Sauerwald and in further view of Wu.

Claims 18 and 36-37 stand rejected as being obvious over Heublein in view of Sauerwald in view of Wu and further in view of Richter. Neither the previously discussed cited prior art, nor Richter, provide a teaching or suggestion to add yttrium to a magnesium alloy for use in an endoprosthesis. Therefore, withdrawal of the rejections under 35 U.S.C. § 103 is respectfully requested.

The outstanding Office action was mailed on 14 March 2007. The Examiner set a shortened statutory period for reply of 3 months from the mailing date. Therefore, no extension of time or accompanying fee is believed to be due in making this response. Nevertheless, the Applicants hereby make a conditional petition for an extension of time for response in the event that the need for such a petition has been overlooked. No fees are believed to be due with this response. However, in the event that a fee for the filing of his response is insufficient, the Commissioner is authorized to charge any fee deficiency or to credit any overpayment to Deposit Account 15-0450.

Respectfully submitted,

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